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A common set of indicators measuring the positive and negative impacts caused by tourism in the Carpathians

Project "Support for the Implementation of the Strategy for Sustainable Tourism Development in the Carpathians"

Implement. Organisation: Ökologischer Tourismus in Europa (Ö.T.E.) e.V. (Ecological Tourism in Europe, ETE)

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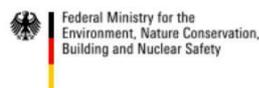


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During the consultation process on the implementation of the “Strategy for Sustainable Tourism Development of the Carpathians”, the project team at Ecological Tourism in Europe was tasked by the members of the Working Group on Tourism of the Framework Convention on the Protection and Sustainable Development of the Carpathians to elaborate on a “Common set of indicators measuring the positive and negative impacts caused by tourism in the Carpathians”.

Also thanks to the Sustainable Development of Tourism Programme of UNWTO a number of experts and institutions were gathered to provide input to a set of indicators, which reflect the current situation in the Carpathians on data availability and the existence of institutions at destination level, which have the capacity to collect and process the information for the indicators.

Given the fact that UNWTO is working frequently on tailor-made indicators and the European Tourism Indicators System (ETIS) provides a well described set of indicators for destinations, the gathered team had the task to find a well-balanced compromise for the Carpathian destinations and to come up with 25 core indicators.

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The outcome of this work will first be submitted to the Working Group on Tourism of the Framework Convention on the Protection and Sustainable Development of the Carpathians and later on to the National Tourism Task Forces, responsible for the implementation of the Strategy for Sustainable Tourism Development of the Carpathians. These institutions will take a final decision on the set of indicators and will select destinations for the testing.

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Ökologischer Tourismus in Europa Ö.T.E. e.V. (Ecological Tourism in Europe, ETE)

List of Abbreviations

EDEN	European Destination of Excellence
EU	European Union
EEA	European Environment Agency
ENAT	European Network for Sustainable Tourism
ETIS	European Tourism Indicator System
GRI	Global Reporting Initiative
GSTC	Global Sustainable Tourism Council
INSTO	UNWTO International Network of Sustainable Tourism Observatories
MST	Measuring Sustainable Tourism initiative
OECD	Organization for Economic Co--Operation and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSD	United Nations Statistics Division
UNWTO	World Tourism Organization
WTTC	World Travel and Tourism Council
WWF	World Wide Fund For Nature

1 Introduction

1.1 The development of indicators

Travel to mountain ecosystems is increasing at a rapid pace globally. Growing numbers of tourists are attracted to the clean air, unique landscapes and wildlife, scenic beauty, rich culture and heritage, history, and recreational opportunities that mountain destinations offer. The Carpathians, a mountain destination with very rich natural, cultural and historical heritage, have a wide range of tourism and leisure amenities to offer.

Over the last 10 years the Carpathian countries were able to improve their role in the international tourism sector, with the number of visitors increasing from 87.9 million in 2002 to 111.6 million in 2012. Central and Eastern European countries attract 20% of all international travellers to Europe. It is estimated that the Carpathian region receives approx. 45 million overnight stays per year, including domestic and international travellers.

To prevent the development of unsustainable (mass) tourism in the Carpathians, The Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention) was adopted and signed by the seven Parties (Czech Republic, Hungary, Poland, Romania, Serbia, Slovak Republic and Ukraine) in May 2003 in Kyiv, Ukraine, and entered into force in January 2006. This Framework Convention builds the basis for comprehensive international cooperation in the Carpathians. In order to value and sustainably use the outstanding natural and cultural assets of the Carpathians, the seven Carpathian countries developed *The Strategy for Sustainable Tourism Development of the Carpathians*. This Strategy outlines a vision, objectives and activities to be accomplished in a given period of time. Furthermore, the Strategy describes concrete measures either to avoid or to mitigate existing and potential negative impacts of tourism development.

A set of criteria is required in order to measure whether the implementation of the Strategy is successful in each of the seven Carpathian countries. Moreover, governments need to monitor and assess the implementation status of the Strategy against similar standards and thresholds. Therefore, the Parties shall report on progress based on these indicators and review the Strategy when needed. The indicators proposed to the Carpathian countries are listed in Chapter 4.

1.2 Tourism grows continuously in Central and Eastern Europe¹

International tourism arrivals in Europe grew 5% in 2015 to reach 609 million, just over half of the world's total (51%). Europe was the fastest growing region in absolute terms, with 28 million more tourists than in 2014. The 28 countries (before Brexit) of the European Union posted over 5% growth, increasing international arrivals by a record 25 million to 479 million.

By sub--region, Central and East Europe (+6%) saw the highest growth in relative terms, welcoming 5 and 7 million more tourists respectively. The sub--region returned to growth in 2015 after a decline in international arrivals in 2014 amid the conflict in Ukraine and the slowdown of the Russian economy.

Most destinations reported strong results in 2015. Hungary (+18%) is enjoying double--digit growth for the second year in a row, with improved air connectivity and growing popularity of Budapest for city and business tourism. Romania and Slovakia (both +17%) also recorded double--digit growth in 2015. The Czech Republic (+7%) and Poland (+5%) also performed well in 2015, driven by robust intraregional demand.

Meanwhile, the Balkan destinations of Bosnia--Herzegovina (+26%), Montenegro (+16%), FYR Macedonia (+14%), Albania (+13%), Slovenia (+12%) and Serbia (+10%), all reported a double--digit

¹ UNWTO Barometer, Volume 14 – March 2016

growth this year. Serbia's government has implemented a new tourism strategy in recent months which includes tax incentives and promotional efforts.

1.3 The economic value of tourism and its social and cultural impacts

The socio-cultural and economic impacts on host communities are inextricably linked. There may be beneficial synergies or inverse relations amongst the three impact areas and different opinions amongst several community groups and individuals as to what constitutes a benefit and what is negative for the community.

Some traditional or indigenous communities may not want to share their culture with tourists at all, while some rural, agricultural communities may not even recognise the interest tourists might have in their way of life. Accepting economic development often means accepting the cultural changes that accompany tourism development.

Socio-cultural benefits to communities can be very difficult to measure. Thus, it may be easier to measure economic benefits as an indicator of community socio-cultural benefits.

A concrete example of a survey on this topic for the Carpathian region (Lake Balaton, Hungary)² showed that the most positive impacts of tourism perceived by the local residents were related to the increase of a settlement's overall tax revenue, resident's pride in their settlement, hospitality and courtesy toward strangers. On the contrary, the increase of cost of living, costs of land and housing, general prices for goods and services, resident's concern for material gain, prostitution, gambling, organised crime, individual crime, noise and congestion, were perceived as negative impacts.

1.4 A comparison of tourist product development and marketing in the Carpathian and the Alps

The Carpathian Convention is the unique multi-level governance mechanism covering the whole of the Carpathian area. After the Alpine Convention³ it is the second sub-regional treaty-based regime for the protection and sustainable development of a mountain region worldwide. The interested parties are committed to taking measures to promote sustainable tourism in the Carpathians, providing benefits to the local people, based on the exceptional nature, landscapes and cultural heritage of the area.

Traditionally, the Alps were, and still are, a platform for innovation in the field of sustainable tourism and several sustainability oriented tourism and leisure products which combine the responsible use of resources and a high level of leisure services. It is important to underline that sustainable development of tourism in general is not to be confused with related forms of tourism.

2 Objectives

The main goal of this project is the development of a set of core indicators (and possible supplementary indicators), for the specific objectives of the commonly agreed Strategy for Sustainable Tourism Development of the Carpathian Convention⁴. These indicators need to be tailored to the needs of the Carpathian mountain ecosystems and of the local community, in order to allow for the tracking of the progress towards sustainability within the region, and also the international and the interregional comparability with other destinations. In addition, the establishment of Sustainable

² UNWTO 2004 Guidebook

³ The Alpine Convention was signed on November 7, 1991 in Salzburg by Austria, France, Germany, Italy, Liechtenstein, Switzerland, and the European Union. Slovenia signed the Convention on March 29, 1993, and Monaco became a party on the basis of a separate additional protocol. The Convention entered into force on March 6, 1995.

⁴ In May 2011, during the 3rd Conference of the Parties, the Protocol on Sustainable Tourism to the Carpathian Convention was adopted, and entered into force on April 29, 2013.

Tourism Observatories, under the umbrella of INSTO, and with the endorsement of the UNWTO, can be considered as a desired milestone in the next years.

3 Methodology

The successful implementation of the Strategy for Sustainable Tourism Development in the Carpathians, under the framework of the Carpathian Convention, is strictly related to the correct and qualified measurement of the positive and negative effects caused by tourism flows in this mountain area, as well as the identification of risks and potential benefits.

First of all, it is important to have a clear overview of the historical evolution of the policies and measurements systems recognised at international and European level in the tourism sector. In this sense it is vital to observe what can be learnt from existing systems that fit to the specific characteristics of the Carpathian region.

In this regard, several tools, methodologies and legal frameworks have been provided by international organizations such as UNWTO, UNEP, OECD, WWF, UNESCO, WTTC, etc., as well as by EU institutions such as the European Commission, EUROSTAT, EEA and other transnational private stakeholders including GSTC, ECOTRANS, GRI, EUROPARC, ENAT, NECSTOUR, INSTO, TRAVEL LIFE, among others.

The framework of INSTO, which has recently been updated, aligns with efforts in this field made by other relevant initiatives such as the European Tourism Indicator System (ETIS)⁵ and the GSTC. Since its establishment in 2004, a total of fourteen observatories have been recognised by UNWTO for their commitment to regular monitoring: eight in China, one in Greece, one in Croatia one in Mexico, one in Brazil and three in Indonesia.

INSTO key objectives are:

- Integrated approach: To provide a framework for the systematic, timely and regular monitoring of resource--use and a better understanding of tourism impacts.
- Evidence: To establish a strong foundation of tangible information for well--informed decision making.
- Stakeholder empowerment: To actively engage local stakeholders in the measurement of risks, costs, impacts, limits and opportunities through an inclusive and participatory approach.
- Engagement: To network and exchange information for improved collaboration, communication and greater public accountability.
- Performance measurement: To monitor the implementation of sustainable development plans, policies and management actions.
- Continuity: To foster long--term commitment for regular monitoring, thus contributing to the sustainable growth of the sector at the destination--level.
- Knowledge building: To highlight and share good practices and lessons learnt.

The comparability of some parts of the forthcoming Carpathian set of indicators, considering the geographical context of the Carpathian region, will take into account the continuous progress on definition of standards, criteria and indicators for sustainable tourism realised so far on this issue. In fact, new approaches (from top down to integrated and participatory processes), methodologies, commitments, shared responsibilities, governance models, thematic priorities, territorial dimensions, targets and transversal topics (e.g. Biodiversity, climate change, protected areas, transport accessibility, digital and mobile positioning data, social--cultural, economic value, environment), have been developed.

⁵ An official measurement and management tool launched by the European Commission in 2013

From a global perspective, the most comprehensive and complete guide and reference for the development of indicators for sustainable tourism is the UNWTO Guidebook⁶, published in 2004. This Guidebook provides definitions, sources of information and recommendations, offering a detailed description of key steps on how to develop and use indicators. For the purpose of this work, the guidelines on measurements and expression of indicators will be taken into account, in addition to examples of practical application in destinations, with a focus on mountain, ecotourism, parks and protected area destinations, as well as culture, heritage, and community dimensions.

Following the UNWTO input, the Global Sustainable Tourism Council (known as the GSTC or the Council) was formally constituted in 2010 as an independent body for establishing and managing standards for sustainable tourism. At the heart of its work are the Global Sustainable Tourism Criteria and Indicators (which are neither a definitive set nor are they all-inclusive and they can be applied to a broad range of destinations type). These indicators are organised around the four sections: (1) *demonstrate effective sustainable management*; (2) *maximise economic benefits to the host local community and minimise negative impacts*; (3) *maximise benefits to communities, visitors, and culture: minimise negative impacts*; (4) *maximise benefits to the environment and minimise negative impacts*.

From a regional scale perspective, in a pan-European context, the experience of the Alpine Convention and its further developments towards the implementation of the Protocol on Sustainable tourism in the Alps⁷ and the Action Plan on the European Union Strategy for the Alpine region⁸, will be useful to identify common issues and challenges, complementarities and links with the Carpathian Convention, in view of the development of specific indicators for the Carpathians.

An interesting example illustrating how local Alpine tourism destinations can implement indicators is the process to identify a set of mountain specific indicators for sustainable tourism conducted in 2011⁹. In this particular case, three Alpine EDEN destinations (European Destinations of Excellence)¹⁰ were involved: Pielachtal in Austria, and Solčavsko and Soča Valley in Slovenia. The method used to identify the indicators consisted on the evaluation of the feedback received from destination representatives, who were asked to rate which indicators they considered most relevant in the field of management and evaluation of sustainability in their destination.

However, there are many more possible indicators and measurements that could be also taken into account if they are considered appropriately. They include aspects such as water management, mobility and connectivity issues, climate change, protection of natural heritage, quality, mobile activities, online reputation and social networks, etc.

Nevertheless, in terms of establishing potential synergies between the Alps and the Carpathian, Action 7 'Developing ecological connectivity in the whole territory' of EUSALP Action Plan, recognises the need to strengthen ecological continuity and share experiences, building also on the Alpine--Carpathian corridor project¹¹. In addition to this, Action 8 'Improving risk management and to better manage climate change, including major natural risk prevention', highlights the relevance of exchanges of knowledge and good practices with other mountain areas, such as the Carpathian region.

⁶ Indicators for sustainable development in tourism destinations

⁷ Sustainable tourism in the Alps – Report on the state of the Alps – Alpine Convention – Special Edition 4 – 2013

⁸ COM (2015) 366 concerning the European Union Strategy for Alpine Region – EUSALP⁹

Core indicators for sustainable tourism list – Universitat Autònoma de Barcelona, 2012¹⁰

http://ec.europa.eu/growth/tools-databases/eden_en

¹¹ <http://www.alpenkarpatenkorridor.at>

3.1 The importance of measurement and monitoring at different levels and with different tools

It is extremely important to take into account what has been done in different areas on this issue of measurement to coordinate with other regions and jurisdictions. In order to ensure comparability between destinations in the Carpathians, a clear understanding and the creation of a common framework is required. Challenging aspects are still an 'on-going open discussion' at different levels, in terms of:

- measurement's concept definition
- problem of connectivity (governance issue),
- identification of positive messages
- capitalisation of the best story-telling,
- bringing the industry into the loop
- improving destination sustainable management
- balance between /investments/additional costs and benefits,
- use of non-traditional data and their relevance at destination level,
- role of transnational networks.

Assessment and reporting are complex tasks that will not produce the expected results unless they are carried out with the needed time and energy devoted to it. This requires that the mandates and capacities to carry out this task are considered as part of the core infrastructure of social organizations, oftentimes a responsibility of the government. The mandate should be clearly backed by laws and regulations.

UNWTO has recently launched, with the support of the United Nations Statistics Division (UNSD), the Measuring Sustainable Tourism (MST) initiative¹². The aim of the MST is to develop an international statistic framework to measure key aspects of tourism's role in sustainable development, including economic, environmental and social dimensions. The starting foundation involves bridging two UN standards: The Tourism Satellite Account (TSA) and the System of Environmental Economic Accounting (SEEA).

By integrating tourism more fully within economic, social and environmental measurement standards, the framework aims to provide a common language and organizational structure for exploiting the richness of data already available and for more effective data production, management and integration. Such a standard-based framework can further support the credibility, comparability and outreach of various measurement and monitoring programmes relating to sustainable tourism.

In this regards, civil societies and other stakeholder groups must be given a leading role along with the local administration. This will create synergies and provide the public with different points of view.

The role of the coordination team (and or the local coordinator manager at destination level) is to manage and coordinate the entire process. This includes engaging the wider expert community;; gathering, analysing and interpreting data;; and organising peer review. The selection of effective technical partners is crucial for the process.

The European Tourism Indicator System – ETIS, a management and monitoring tool for tourism destinations -- was specially designed by the European Commission in 2013, aiming at helping them to develop and carry out their plans for greater sustainability. ETIS methodology, which was already welcomed and implemented by 100 destinations across Europe during 2-year pilot phase (2013--2015), will be carefully taken into account in order to choose some core indicators for the Carpathians region. This methodology provides a good common framework in order to benchmark the findings against a set of universally recognised indicators, and to assess and support sustainable tourism development with the involvement of the local community.

¹²Working group on measuring sustainable tourism terms of reference (as of 26/07/2016)

Still at European level, efforts to monitor and assess environmental impacts and sustainability trends of tourism have been undertaken by the European Environment Agency (EEA). The EEA has so far carried out an exploratory work on the technical feasibility and policy relevance of using a set of indicators to develop regular assessments on the environmental dimension of tourism sustainability. A proposal for a set of indicators, based on the “Drivers – Pressures – Impacts – State – Response” chain includes a set of 25 core indicators to be used at European level that can be also downscaled at sub--regional level (see Tab. 1, in paragraph 4.2).

The indicators developed so far as proxies aim at covering a wide range of topics related to tourism such as attractiveness of places, water consumption, biodiversity disturbance, spread of sustainability practises by the adoption of environmental certification schemes and labelling, potentials for ecotourism and --to some extent, initially-- land take by development of specific tourism and recreational related facilities (ski area, marina and golf courses).

4 Developing a (draft) set of indicators for the Carpathians measuring tourism impacts in destinations

4.1 General explanatory note

Indicators are information sets which are formally selected to be used on a regular basis to measure changes that are of importance for tourism development and management. They can measure a) changes in tourism’s own structures and internal factors, b) changes in external factors which affect tourism, c) the impact caused by tourism. It is worth noting that all of the work associated with creating good indicators can be wasted if there are no effective means to make certain that the information gets to those stakeholders who need it, and that they have an incentive to use it. Both quantitative¹³ and qualitative¹⁴ information can be used for indicators of sustainability useful to the tourism sector. Information is much more powerful if shared.

An indicator is normally chosen from a range of possible data sets or information sources because it is meaningful with regard to the key issues to which tourism managers must respond.

The best indicators are those which respond to the key risks and concerns regarding sustainability of tourism, and also provide information which can help clarify issues and measure responses (usually the issues concerning the natural resources and environment of a destination, economic sustainability, cultural assets and social values, organization and management issues). Within this context, indicators are the warning system for destination managers and policy makers of potential risks and a signal for possible action, in order to address issues such as community based regional planning, carrying capacity of natural areas, or quality of life issues in many nations.

To validate the indicators and facilitate the final acceptance of the document, it is recommended to apply a participatory methodology that combines the use of focus groups with holding open public meetings. This way, once the document is finally accepted it will count with the support of diverse social groups, which will add credibility to the process.

Planning and management of tourism in many destinations have occurred with insufficient information, particularly with regard to the impacts of tourism destinations, the impacts of changes in the social and natural environment on tourism and the long--term maintenance of the key assets which make a destination attractive.

The process of establishing and using indicators can be a catalyst for improvement of the decision--making process, and create greater participation in solutions and accountability for the results.

¹³ Quantitative measurements: comparable numbers can be obtained over time, i.e. number of tourists visiting a site year/month, percentage of waste water receiving treatment etc.

¹⁴ Qualitative/normative measurements: the variation in a situation can be described, i.e. existence of tourism development plans, level of tourist satisfaction etc.

A more systematic development and application of indicators can reinforce and improve the process by stimulating better use of existing data sources, identification of new ones, improvement of data collection and analysis processes, and improve reporting and communication for the stakeholders involved.

Clarification of key indicators can frequently stimulate re--examination of plans and explanation of performance measures.

This was the case for a Canadian plan, which in 2000 defined a broad set of policy goals¹⁵ for rural development. This plan used an extensive public consultation process followed by a series of indicator development workshops with (government) officials who were required to later clarify whether the goals were realistic and attainable. A similar process was used by the city of Keszthely in Hungary¹⁶ where indicator workshops were held by the UNWTO, this was the first time a majority of the key local stakeholders had met, understanding the potential to work together for shared solutions and goals.

The rationale behind the selection of the present draft of core indicators for the Carpathian region is based on the following criteria:

- Relevance to the key issues of a destination
- Practicality of generation and user friendliness
- Feasibility of obtaining and analysing required information
- Credibility, clarity and ability to be used as benchmark for comparison over time and with other destinations;;
- Dynamic procedure and continuous improvements of information sources and processing aiming at more accurate indicators

There is no need to reinvent the wheel. Numerous indicator systems have been developed (GSTC, ETIS, SDIs for enterprises), and some initiatives are looking at identifying the most suitable ones to allow a comparison across European destinations.

The number of indicators should not be too high, otherwise data collection will be too time--consuming and the report will become complicated and less user--friendly. Therefore, the "Carpathian approach" will be to downscale existing indicators to this region to be easily applicable for destinations.

It is of great importance to use the same unit--metrics, types and periods of measurement as well as the same components of the system being measured, to evaluate performance regarding particular sustainability indicators.

In line with ETIS methodology, supplementary indicators have to be considered as a starting point and as an example of specific indicators which have already been tested and can be tailored for a specific type of destination for other needs.

They can be added to the basic information provided with the core indicators, and allow destinations to tailor the system to their own particular needs or destination category, e.g. mountain, rural, biodiversity, protected area, maritime and coastal tourism, also considering coordinated approaches and macro--regional and/or transnational dimension.

¹⁵ Improved rural leadership, improved quality of life, improved access

¹⁶ UNWTO Guidebook 2004

4.2 List of indicators

The list below shows a set of 25 selected core indicators (shown in black) in addition to 35 possible supplementary indicators (shown in grey). This compilation of indicators is the result of a combination of already-existing indicators and the input from various experts.

Tab. 1 List of core and supplementary criteria and indicators for measuring the positive and negative impacts caused by tourism in the Carpathians

Criteria	Indicators
Section A: Destination Sustainable Management	
A.1 Sustainable destination strategy ¹⁷	A.1.1 Political commitment to implement the multi-year destination plan, through the existence of an enabling system (e.g. capacity building, measures for local stakeholder's participation)
	A.1.2 ¹⁸ Existence and quality of management plans, visitor regulations and monitoring
A.2 Private sector commitment to sustainability ¹⁹	A.2.1 Percentage of tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility
A.3 Customer retain ²⁰	A.3.1 Percentage of repeat/return visitors (within 5 years) to be exploited with additional technologies data
A.4 Inventory of tourism assets and attractions ²¹	A.4.1 Regular inventory and classification of tourism assets and attractions including natural and cultural sites
Section B: Economic Value	
B.1 Tourism flow (volume and value) at destination ²²	B.1.1 Number of tourist nights per month
	B.1.2 Number of day visitors
	B.1.3 Relative contribution of tourism to the destination's economy (% GDP)

¹⁷ GSTC criteria&indicators destinations (amended by authors)

¹⁸ ETE and UNESCO--BRESCE, 2008 Criteria for sustainable tourism for three biosphere reserves Aggtelek, Babia Gora and Sumava

¹⁹ UNWTO 2004 Guidebook

²⁰ ETIS toolkit March 2016 (amended by authors)

²¹ GSTC Criteria &Indicators

²² ETIS toolkit March 2016 (amended by authors)

	B.1.4 Revenue from the tourism industry in a destination ²³
B.2 Quantity and quality of employment ²⁴	B.2.1 Direct tourism employment as percentage of total employment in the destination
	B.2.2 Employment rate in the tourism industry in a destination ²⁵
B.3 Tourism supply chain ²⁶	B.3.1 Percentage of locally produced food, drinks, goods and services sourced by the destination's tourism enterprises (to be further specified in order to be measurable)
Section C: Social and Cultural Impact	
C.1 Community/social impact ²⁷	C.1.1 Number of beds per 100 residents
	C.1.2 Percentage of permanent residents who are satisfied with tourism in the destination (per month/season)
C.2 Gender equality ²⁸	C.2.1 Percentage of women employed in the tourism sector
C.3 Inclusion/ accessibility ²⁹ 9	C.3.1 Percentage of rooms in commercial accommodation establishments accessible for people with disabilities;;
	C.3.2 Percentage of public transport that is accessible to people with disabilities and specific access requirements;;
	C.3.3 Percentage of tourist attractions that are accessible to people with disabilities and/or participating in recognised accessibility information schemes
	(Alternative to C.3.1--3.3: % of touristic infrastructure (e.g. accommodation, transport, attractions) accessible for people with disabilities)
C.4 Attraction protection, local identity and assets ³⁰	C.4.1 Percentage of areas locally/ecologically managed, to maintain natural and cultural sites, including build heritage and rural and urban scenic views and its identity

²³ Indicators draft proposal for the Carpathians from the Polish team

²⁴ ETIS toolkit March 2016

²⁵ Indicators draft proposal for the Carpathians from the Polish team

²⁶ ETIS toolkit March 2016 (amended by authors)

²⁷ ETIS toolkit March 2016

²⁸ ETIS toolkit March 2016

²⁹ ETIS toolkit March 2016

³⁰ GSTC +ETIS Toolkit 2016 (amended by authors)

C.5 Destination's image ³¹	C.5.1 Percentage of tourists who have a positive image of the destination (exit survey or non--traditional data)
	C.5.2 Percentage of tourists who would recommend destination to their peers (exit questionnaire)
C.7 Cost and benefits ³²	C.7.1 Cost per annum of new or maintained infrastructure or services needed to serve tourist
	C.7.2 Estimated expenditure needed to expand tourism (per resident, per projected tourist day)
C.8 Creating partnership ³³	C.8.1 Number of tour operators serving the region
	C.8.2 Number of linkages/partnerships with operators, communities or organizations to jointly bring tourists to the destination
C.9 Community involvement ³⁴	C.9.1 Degree of community participation in tourism development (e.g. workshops)
	C.9.2 Percentage of potential local establishments involved
	C.9.3 Percentage of community in favor of more tourism/less tourism
C.10 Tourism as catalyst for social and cultural change ³⁵	C10.1 Percentage of local residents concerned about loss of culture community structure and values (questionnaire)
	C10.2 Percentage of residents not speaking the local language
C.11 Tourism intensity ³⁶	C11.1 Number of overnights spent/month per inhabitant
	C11.2 Number of tourism arrivals per 100 residents
C.12 Tourism density ³⁷	C12.1 Number of overnight stays per km2
	C12.2 Number of bed--places in tourist accommodation establishments per km2

³¹ UNWTO 2004 Guidebook --

³² UNWTO 2004 Guidebook

³³ UNWTO 2004 Guidebook

³⁴ UNWTO 2004 Guidebook

³⁵ UNWTO 2004 Guidebook

³⁶ EEA

³⁷ EEA

C.13 Occupancy rate ³⁸	C.13.1 Bedroom occupancy rate in hotels and similar
Section D: Environmental Dimension	
D.1 Low--impact transportation ³⁹	D.1.1 Percentage of visitors using low--impact transportation (electric public transport, cycle route, pedestrian areas etc.)
	D.1.2 Utilization rate of public transport by tourist ⁴⁰
	D.1.3 Indicator of local transportation usage among tourists ⁴¹
D.2 Climate change ⁴²	D.2.1 Functioning climate change adaptation plan
	D.2.2 Frequency of extreme events
	D.2.3 Value of damage to tourism sector
	D.2.4 Percentage of tourist infrastructure (hotels, other), located in vulnerable zones
	D.2.5 Degree to which key tourist zones are covered by contingency or emergency planning (existence of plan, % area included);;
	D.2.6 Percentage of water used for snow production
	D.2.7 Percentage of non--functioning ski areas, closed due to climate change events
	D.2.8 Percentage of key species considered vulnerable to climate change
D.3 Solid waste management ⁴³	D.3.1 Percentage of recycled solid waste of the tourism sector (accommodation and food processing sector) in comparison to the total production of solid waste
D.4 Water use ⁴⁴	D.4.1 Water consumption per tourist compared to general population water consumption per resident night

³⁸ EEA

³⁹ GSTC Criteria & Indicators (amended by authors)

⁴⁰ Indicators draft proposal for the Carpathians from the Polish team

⁴¹ Indicators draft proposal for the Carpathians from the Polish team

⁴² UNWTO 2004 Guidebook (added by authors)

⁴³ ETIS toolkit March 2016 (added by authors)

⁴⁴ ETIS toolkit March 2016 (amended by authors)

D.5 Energy usage and management ⁴⁵	D.5.1 Energy consumption per tourist, compared to general population energy consumption per resident
	D.5.2 Percentage of tourism enterprises taking actions to reduce energy consumption (renewable energy)
D.6 Landscape and biodiversity protection ⁴⁶	D.6.1 Percentage of local enterprises in the tourism sector actively supporting protection, conservation and management of local biodiversity and landscapes
D.7 Measuring potential impact of tourism on the natural environment ⁴⁷	D.7.1 Percentage of projects/initiatives where tourism impact is evaluated
	D.7.2 Percentage of conservation projects where tourism financial contribution is a component, compared to the overall investment
D.8 Loss of flora and fauna due to tourism activity ⁴⁸	D.8.1 Percentage of visitors accompanied by trained guides
	D.8.2 Area of degraded vegetation attributable to tourist use (i.g. alpine meadows, % of surface area of key ecosystems disturbed)
	D.8.3 Average size of tourism group or party
D.9 Access ⁴⁹	D.9.1 Percentage of ease of access to key sites (both visitors and locals) using questionnaire methodology
	D.9.2 Cost of entry (for controlled access areas such as parks or protected areas or transport access expressed in hours work at local wage)
D.10 Seasonality ⁵⁰	D.10.1 Percentage of tourism businesses open all year (accommodation and services) ⁵¹
	D.10.2 Percentage total tourism which occurs in peak month or season

⁴⁵ ETIS toolkit March 2016 (amended by authors)

⁴⁶ ETIS toolkit March 2016

⁴⁷ UNWTO 2004 Guidebook

⁴⁸ UNWTO 2004 Guidebook,

⁴⁹ UNWTO 2004 Guidebook,

⁵⁰ UNWTO 2004 Guidebook

⁵¹ UNWTO 2004 Guidebook

5 Annex: Overall source of information and data needed

Tab. 2 Types of data obtained from different institutions

Institutions	Types of Data
Government bodies	<p>Responsible for state statistics, national population census, environmental monitoring;;</p> <p>Responsible for information to formulate local level public policies;;</p> <p>Responsible for formulating and administering public policies</p>
Foundations	<p>Public or private institutions that finance research and may establish a critical comparison with official data</p>
Research and urban planning institutes	<p>Public or private, that produce socio--environmental information to complement or classify official data;;</p> <p>Also sources of information on public opinion and the local perception of the city's urban--environmental problems.</p>
Universities	<p>Academic institutions continue to be dedicated to producing information, to scientific research and their technical staff show a more scientific slant.</p> <p>They are a prime source, but information from academic research tends to circulate among a restricted university public.</p>
Non--Government Organizations	<p>NGOs are the most important social intervention stakeholders.</p> <p>They produce information and other materials that contain relevant facts</p>
Business associations	<p>They hold specific information on local economic activities that allow an analysis of the economic dynamics and of pressure factors to be made</p>

Trade unions	They possess or are able to produce specific information about a city's economic and social situation. Their data tends to complement and/or qualify information provided by other bodies representative of business (employment, wages, income, ...)
Private sector (SMEs, tourism enterprises)	Tourism, in a statistical context, refers to the activity of visitors taking a trip to a destination outside their usual environment, for less than a year. It can be for any main purpose, including business, leisure or other personal reasons other than to be employed by a resident person, household or enterprise in the place visited. Tourism statistics are currently limited to at least one overnight stay;; as of reference year 2014, outbound same--day visits are also covered by official European statistics.
Local and national media	Newspapers, magazines, television, radio and the Internet serve as a counter--part to information collected from other local sources.
International organizations and/or bilateral and multilateral agencies	They provide financial resources, prepare projects and take actions on the basis of international resolutions, supervise compliance with such resolutions and use data about the situation in each country. Although they usually do not produce these data, they often finance research and provide training on producing information and, therefore, are an important source for consultation

Note: The fact that data are available from a particular source does not mean that these data can be easily accessed. In addition, some indicators will have data that are missing or that need expanding. This **information can be obtained by conducting surveys, questionnaires** and other type of activities.